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09/586,680	06/01/2000	Daniel Downing	M-8779 US	5910

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EXAMINER
HOFFMAN, BRANDON S

ART UNIT	PAPER NUMBER
2171	7

DATE MAILED: 08/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	Applicant(s)
Office Action Summary	09/586,680	DOWNING, DANIEL
	Examiner	Art Unit
	Brandon Hoffman	2171

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-15* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Specification

1.   Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2.   The abstract of the disclosure is objected to because its length. The abstract is

too long; it should be between 50 and 150 words. Correction is required. See MPEP

§ 608.01(b).

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   Claims 1, 7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by

Sako (EP 0 794 496 A1).

Regarding claim 1, Sako teaches a method for reading and decoding data from an

optical medium, comprising:

- Reading channel bits from the optical medium (col. 12, lines 33-37)

- Removing sync codes from the channel bits to derive a plurality of ESM-encoded

  words (col. 13, lines 1-6)

- Decoding the ESM-encoded words by and ESM decoder to generate a plurality

  of recording frames (col. 13, lines 6-11). ESM stands for eight-to-sixteen

  modulation.

- Rearranging the recording frames to generate an ECC block (col. 14, lines 11-15

  and figures 19 and 20 (ref num 142 and 142a))

- Removing parity bytes from the ECC block to generate a plurality of scrambled

  data frames (col. 13, lines 11-15). The reference refers to the reverse process

  from column 4, lines 41-43, which says "...generates parity..."; the reverse

  process of generating parity would be to remove it from the ECC block.

- Descrambling the scrambled data frames to generate a plurality of encoded data

  frames (col. 13, lines 22-25)

- Inverting at least one selected bit of each encoded data frame to generate a

  plurality of data frames (col. 13, lines 27-46)

- And extracting main data from the plurality of data frames (col. 13, lines 25-26).

Regarding <u>claim 7</u>, <u>Sako</u> teaches performing error checking and correction on the ECC block using the parity bytes prior to descrambling the scrambled data frames (col. 14, lines 7-35 and figures 17 (ref num 116), 19, and 20).

Regarding <u>claim 9</u>, <u>Sako</u> teaches a method for recording data on an optical medium, comprising:

- Receiving main data from a data source (col. 4, lines 25-27)

- Determining a plurality of data frame values in response to the main data (col. 4, lines 27-31)

- Inverting at least one selected bit in at least one of the data frame values to generate a plurality of encoded data frames (col. 5, lines 7-24)

- Scrambling the encoded data frames by a feedback shift register to generate scrambled data frames (col. 4, lines 31-37)

- Generating ECC values in response to the scrambled data frames (col. 4, lines 41-43)

- Adding the ECC values to the scrambled data frames to generate an ECC block (col. 4, lines 37-41)

- Rearranging the ECC block to generate a plurality or recording frames (col. 8, lines 23-33 and figures 10 and 11 (ref num 57 and 57a))

- Encoding the recording frames by an eight-to-sixteen modulation encoder to generate code words (col. 4, lines 43-47)

- Adding sync values to the code words to generate a plurality of physical sectors (col. 4, lines 47-53)

- And recording the physical sectors on the optical medium (col. 4, lines 54-58).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-6, and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sako as applied to claims 1 and 9 above, in view of Blixt (WO 98/52194 A1).

Regarding claims 2-6 and 11-15, Sako discloses all of the claimed subject matter as set forth above in the rejection of claims 1 and 9, except for altering some of the bits in the synchronization and header sections of an optical disk. Blixt teaches altering at least some bits in the synchronization and header sections of an optical disk.

One with ordinary skill in the art, at the time the invention was made, would have altered some of the bits in the synchronization and header sections of an optical disk in Sako as suggested by Blixt. One with ordinary skill in the art would have altered some bits in the synchronization and header sections of an optical disk because altering those

bits would allow certain portions of the CD-ROM to become difficult or impossible to read (see page 7, line 29- page 8, line 2 of Blixt).

Regarding claim 2 specifically, Sako as modified by Blixt teaches wherein: inverting at least one selected bit of each encoded data frame to generate the data frames comprises inverting at least one selected bit of a sector number of each encoded data frame (see figure 2A and pg. 6, lines 29-36 of Blixt).

Regarding claim 3 specifically, Sako as modified by Blixt teaches wherein: inverting at least one selected bit of each encoded data frame to generate the data frames comprises inverting at least one selected bit of a sector information field of each encoded data frame (see figure 2A and pg. 6, lines 29-36 of Blixt).

Regarding claim 4 specifically, Sako as modified by Blixt teaches wherein: inverting at least one selected bit of each encoded data frame to generate the data frames comprises inverting at least one selected bit of a ID Error Detection Code Field of each encoded data frame (see figure 2A and pg. 7, lines 10-12 of Blixt).

Regarding claim 5 specifically, Sako as modified by Blixt teaches wherein: inverting at least one selected bit of each encoded data frame to generate the data frames comprises inverting at least one selected bit of an Error Detection Code field of each encoded data frame (see figure 2A and pg. 7, lines 15-18 of Blixt).

Regarding claim 6 specifically, Sako as modified by Blixt teaches wherein:

inverting at least one selected bit of each encoded data frame to generate the data

frames comprises inverting at least one selected bit of a data field of each encoded data

frame (see figure 2A and pg. 7, lines 6-8 of Blixt).

Regarding claim 11 specifically, Sako as modified by Blixt teaches wherein:

inverting at least one selected bit in at least one of the data frame values comprises

inverting at least one selected bit of a sector number value (see figure 2A and pg. 6,

lines 29-36 of Blixt).

Regarding claim 12 specifically, Sako as modified by Blixt teaches wherein:

inverting at least one selected bit in at least one of the data frame values comprises

inverting at least one selected bit of a sector information field (see figure 2A and pg. 6,

lines 29-36 of Blixt).

Regarding claim 13 specifically, Sako as modified by Blixt teaches wherein:

inverting at least one selected bit in at least one of the data frame values comprises

inverting at least one selected bit of a ID Error Detection Code field (see figure 2A and

pg. 7, lines 10-12 of Blixt).

Regarding claim 14 specifically, Sako as modified by Blixt teaches wherein:

inverting at least one selected bit in at least one of the data frame values comprises

inverting at least one selected bit of an Error Detection Code field (see figure 2A and pg.

7, lines 15-18 of Blixt).

Regarding claim 15 specifically, Sako as modified by Blixt teaches wherein:

inverting at least one selected bit in at least one of the data frame values comprises

inverting at least one selected bit of a data field (see figure 2A and pg. 7, lines 6-8 of

Blixt).

Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sako as applied to claims 1 and 9 above, in view of Iwasaki (U.S. Patent No.

5,854,778).

Regarding claim 8, Sako teaches all of the claimed subject matter as set forth

above in the rejection of claim 1, except for deriving NRZI-encoded pulses from the

optical medium and decoding the NRZI-encoded pulses by an NRZI decoder to

generate the channel bits. Iwasaki teaches deriving NRZI-encoded pulses from the

optical medium and decoding the NRZI-encoded pulses by an NRZI decoder to

generate the channel bits (figure 1, reference number 50).

One with ordinary skill in the art, at the time the invention was made, would have

derived NRZI-encoded pulses from the optical medium and decoded the NRZI-encoded

pulses by an NRZI decoder to generate the channel bits in Sako as suggested by

Iwasaki. One with ordinary skill in the art would do that because the methods used in

recording data to an optical medium are the same methods, in reverse order, as those

used in reading data from an optical medium. More specifically, encoding the physical

sectors by an NRZI encoder prior to recording data to an optical medium, as taught by

Iwasaki in column 9, lines 6-8, would be the reverse process of deriving NRZI-encoded

pulses from an optical medium and decoding those pulses by an NRZI decoder to

generate channel bits.

Regarding claim 10, Sako teaches all of the claimed subject matter as set forth

above in the rejection of claim 9, except for encoding the physical sectors by an NRZI

encoder prior to recording the physical sectors on the optical medium. Iwasaki teaches

encoding the physical sectors by an NRZI encoder (figure 1, reference number 50) prior

to recording the physical sectors on the optical medium (col. 9, lines 6-8).

One with ordinary skill in the art, at the time the invention was made, would have

encoded physical sectors by an NRZI encoder prior to recording onto and optical

medium in Sako as suggested by Iwasaki. One with ordinary skill in the art would do

that because the DC level changes when recording based on track number, ID number,

and sector number. The NRZI encoder adjusts the DC level based on combinations of

track number, ID number, and sector number, thus affecting the recording process (col.

7, lines 1-21).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Veldhuis (EP 0 418 964 A1), Yokota (EP 0 783 167 A1), Spitzenbeger (WO 98/03973), and Standard ECMA.

Veldhuis teaches subcode data (Fig. 1) that is divided into different sections on an optical medium. He also teaches of a method of recording data to an optical disk (Fig. 5), which comprises an EFM modulator (col. 5, lines 38-58).

Yokota teaches recording subsidiary data in the management area to an optical medium for inhibition of copying (Abstract). He also teaches of the different components of subcode data (figs. 3-7).

Spitzenbeger teaches the segments of the subcode used (Figs. 1-3, 8). He also teaches a method for recording and reading information from the optical medium (claims 10 and 11).

Standard ECMA teaches the sectors of a digital track (Pgs. 14-16) and scrambling of the bits using an EFM encoder (Annex D and E).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon Hoffman whose telephone number is 703-305-4662. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers

for the organization where this application or proceeding is assigned are 703-746-7239

for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-305-

3900.

Brandon Hoffman

bh

August 4, 2003

[signature]

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